APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,081	10/31/2003	Boaz Carmeli	IL920030027US1	1840

7590   03/25/2008

Stephen C. Kaufman
IBM CORPORATION
Intellectual Property Law Dept.
P. O. Box 218
Yorktown Heights, NY 10598

EXAMINER
MEW, KEVIN D

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
03/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	**Applicant(s)**
Office Action Summary	10/699,081	CARMELI ET AL.
	Examiner	**Art Unit**	
	KEVIN MEW	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 December 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Final Action

Response to Amendment

1.   Applicant's Remarks/Arguments filed on 12/26/2007 have been considered. Claims 1-17

are currently pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Oberman et al.

(US Publication 2002/0118640).

Regarding claim 1, Oberman discloses a transmission unit (network switch fabric,

element 140, Fig. 1) comprising:

an aggregation unit (cell assembly queue, element 422, paragraph 0045, Fig. 1) to

aggregate in a buffer (aggregates in a shared memory 440, Fig. 1) at least two small messages

received from an upper layer (receiving a plurality of packet frames, paragraph 0042) into a

packet (into a packet, paragraph 0042) and to provide said packet to a pending queue (to provide

the packet to cut-through crossbar logic 426, paragraphs 0049, 0051, Fig. 1); and

a fireout unit (an internal scheduler and output FIFO buffer, elements 464, 462, Fig. 1

and paragraph 0049) to pass packets to a network device (transmit packets to an egress packet

interface, Fig. 1) by selecting packets from said pending queue (by selecting cut-through packets

for transmission from the cut-through crossbar logic, paragraph 0049) if said pending queue is not empty (if there are cut-through packets in the cut-through crossbar logic, paragraph 0048) or from said buffer (or from the shared memory 440, Fig. 1) if said buffer is not full (if there is at least a portion of data stored in the shared memory 400, paragraphs 0015, 0047).

Regarding claim 2, Oberman discloses a unit according to claim 1 and also comprising a reception monitor to indicate to fireout unit (output port to signal the output FIFO buffer) the status of reception of said packets (an output port signal to show its availability to receive incoming packets, paragraph 0087).

Regarding claim 3, Oberman discloses a unit according to claim 1 and wherein said fireout unit operates at a rate related to network congestion (operates at a fixed rate related to congestion, paragraphs 0048, 0080, 0081).

Regarding claim 4, Oberman discloses a unit according to claim 3 and wherein said network congestion may be any one of the following: transmitter congestion, receiver congestion and congestion of network elements (congestion of network switch, paragraph 0080).

Regarding claim 5, Oberman discloses a transmission unit (network switch fabric, element 422, Fig. 1) comprising:

a transmitting network device (output block, element 460, Fig. 1);

means (output FIFO, scheduler, queue link memory, queue link descriptor, paragraph 0048 and Fig. 1) for adjusting the size of aggregated data packets produced by said network device (for adjusting the underflow and overflow situations) based at least on network congestion (based on the input and output ports not operating at the same speed, paragraph 0096).

Regarding claim 6, Oberman discloses a transmission unit according to claim 5 and wherein said means for adjusting comprises:

an aggregation unit (cell assembly queue, element 422, paragraph 0045, Fig. 1) to aggregate in a buffer (aggregates in a shared memory 440, Fig. 1) at least two small messages received from an upper layer (receiving a plurality of packet frames, paragraph 0042) into a packet (into a packet, paragraph 0042) and to provide said packet to a pending queue (to provide the packet to cut-through crossbar logic 426, paragraphs 0049, 0051, Fig. 1); and

a fireout unit (an internal scheduler and output FIFO buffer, elements 464, 462, Fig. 1 and paragraph 0049) to pass packets to a network device (transmit packets to an egress packet interface, Fig. 1) by selecting packets from said pending queue (by selecting cut-through packets for transmission from the cut-through crossbar logic, paragraph 0049) if said pending queue is not empty (if there are cut-through packets in the cut-through crossbar logic, paragraph 0048) or from said buffer (or from the shared memory 440, Fig. 1) if said buffer is not full (if there is at least a portion of data stored in the shared memory 400, paragraphs 0015, 0047).

Regarding claim 7, Oberman discloses a unit according to claim 6 and also comprising a reception monitor to indicate to fireout unit (data packet departure processor 514 to indicate to the ACK scheduler, col. 11, lines 10-15) the status of reception of said packets (the traffic measurements and data transmit notifications, col. 9, lines 36-46).

Regarding claim 8, Oberman discloses a unit according to claim 5 and wherein said network congestion may be any one of the following:

transmitter congestion, receiver congestion and congestion of network elements (congestion of network switch, paragraph 0080).

Regarding claim 9, Oberman discloses a software product comprising:

a computer usable medium having computer readable program code means (Fig. 6) embodied therein for causing transmission of packets to a network (data packet departure algorithm for causing transmission of packets to a TCP source, Fig. 6), the computer readable program code means in said software product comprising:

computer readable program code means (Fig. 6) for causing a computer to aggregate in a buffer (aggregates in a shared memory 440, Fig. 1) at least two small messages received from an upper layer (receiving a plurality of packet frames, paragraph 0042) into a packet (into a packet, paragraph 0042) and to provide said packet to a pending queue (to provide the packet to cut-through crossbar logic 426, paragraphs 0049, 0051, Fig. 1); and

computer readable program code means for causing the computer to pass packets to a network device (transmit packets to an egress packet interface, Fig. 1).

selecting packets from said pending queue (by selecting cut-through packets for transmission from the cut-through crossbar logic, paragraph 0049) if said pending queue is not empty (if there are cut-through packets in the cut-through crossbar logic, paragraph 0048) or from said buffer (or from the shared memory 440, Fig. 1) if said buffer is not full (if there is at least a portion of data stored in the shared memory 400, paragraphs 0015, 0047).

Regarding claim 10, Oberman discloses a product according to claim 9 and also comprising code means for causing a computer to indicate to said second code means the status of reception of said packets (output port signal its availability to receive incoming packets, paragraph 0087).

Regarding claim 11, Oberman discloses a product according to claim 9 and wherein said second code means operates at a rate related to network congestion (operates at a fixed rate related to congestion, paragraphs 0048, 0080, 0081).

Regarding claim 12, Oberman discloses a product according to claim 12 and wherein said network congestion may be any one of the following: transmitter congestion, receiver congestion and congestion of network elements (congestion of network switch, paragraph 0080).

Regarding claim 13, Oberman discloses a method comprising:

adjusting the size of aggregated data packets produced by said network device (for adjusting the underflow and overflow situations) based at least on network congestion (based on

the input and output ports not operating at the same speed, paragraph 0096).

Regarding claim 14, Oberman discloses a method according to claim 13 and wherein said adjusting comprises:

aggregating in a buffer (aggregates in a shared memory 440, Fig. 1) at least two small messages received from an upper layer (receiving a plurality of packet frames, paragraph 0042) into a packet (into a packet, paragraph 0042);

providing said packet to a pending queue (to provide the packet to cut-through crossbar logic 426, paragraphs 0049, 0051, Fig. 1); and

passing packets to a network device (transmit packets to an egress packet interface, Fig. 1).

selecting packets from said pending queue (by selecting cut-through packets for transmission from the cut-through crossbar logic, paragraph 0049) if said pending queue is not empty (if there are cut-through packets in the cut-through crossbar logic, paragraph 0048) or from said buffer (or from the shared memory 440, Fig. 1) if said buffer is not full (if there is at least a portion of data stored in the shared memory 400, paragraphs 0015, 0047).

Regarding claim 15, Oberman discloses a method according to claim 14 and also comprising indicating the status of reception of said packets (output port signal its availability to receive incoming packets, paragraph 0087).

Regarding claim 16, Oberman discloses a method according to claim 14 and wherein said passing operates at a rate related to network congestion (operates at a fixed rate related to congestion, paragraphs 0048, 0080, 0081).

Regarding claim 17, Oberman discloses a method according to claim 16 and wherein said network congestion may be any one of the following: transmitter congestion, receiver congestion and congestion of network elements (congestion of network switch, paragraph 0080).

Response to Arguments

3.   Applicant's arguments filed on 12/26/2007 have been fully considered but are moot in view of the new ground(s) of rejection.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. M./
Kevin Mew
Work Group 2616

/Chi H Pham/

Supervisory Patent Examiner, Art Unit 2616

3/14/08